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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,281	07/17/2006	Seiichiro Yamamoto	47233-5002-00 (216113)	1577

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DRINKER BIDDLE & REATH (DC)  
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WASHINGTON, DC 20005-1209

EXAMINER
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COLEMAN, RYAN L

ART UNIT	PAPER NUMBER
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1714

NOTIFICATION DATE	DELIVERY MODE
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05/10/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DBRIPDocket@dbr.com  
penelope.mongelluzzo@dbr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,281	<b>Applicant(s)</b> YAMAMOTO ET AL.	
	<b>Examiner</b> RYAN COLEMAN	<b>Art Unit</b> 1714	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1 April 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 and 11-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

1. Applicant's arguments filed April 1, 2010 are acknowledged. Claims 1-6 and 11-22 are pending, and claims 3-6 and 11-22 have been withdrawn from consideration.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,235,147 to Lee et al. (hereafter referred to as "Lee").
4. With regard to claim 1, Lee teaches a method of discharging solid semiconductor wafer contaminants from the inside of a treatment bath (item 10 in Figure 10; reads on *container*; Col. 1, 8-12; Col. 4, 17-22; Col. 5, 14-37; Col. 7, 4-12; Col. 9, 39-45). As taught by Lee, a liquid chemical (reads on *discharging chemical*) is supplied to the bath through a nozzle (item 21 in Figure 10) that is located in the vicinity of the bath's bottom such that a spiral flow of liquid chemical and solid contaminants is generated within the bath and discharged through a discharge port in the bath's bottom (Col. 4, 17-22; Col. 5, 14-37; Col. 7, 4-12; Col. 9, 39-45).
5. With regard to claim 2, as shown in Figure 10, the bottom nozzle that is labeled by numeral 21 is located in the vicinity of the bath's bottom. Lee teaches having the

nozzle 21 discharge liquid chemical in a tangential direction such that the nozzle generates a spiral flow of liquid (Col. 5, 14-37; Figure 8).

### ***Response to Arguments***

6. Applicant's arguments filed April 1, 2010 have been fully considered but they are not persuasive.

7. Applicant argues that the examiner's use of the Lee reference is inappropriate because the "field of the invention" of the Lee reference is "significantly different" from the field of applicant's claimed invention. However, applicant's claimed subject matter is fully anticipated by the Lee reference, and therefore, arguments concerning the similarity of the fields of invention between the Lee reference and applicant's teaching are not relevant.

8. Applicant argues that Lee only makes a spiral flow of liquid chemical instead of a spiral flow of a mixture of liquid chemical and solid matter. However, since Lee teaches generating a spiral flow of the liquid chemical during the processing of the wafers (Col. 5, 14-37; Col. 9, 39-45) and since Lee teaches that the wafer contaminants are mixed with the liquid chemical such that the liquid chemical and contaminants are discharged together from the treatment bath (Col. 7, 4-12), Lee teaches a spiral flow of a mixture of liquid chemical and solid matter.

9. Applicant argues that the invention of Lee does not "intend to generate the spiral flow" and that in Lee's invention, "a slight spiral flow of the chemical 3 is merely generated in association with the rotation of a wafer guide". However, regardless of

Art Unit: 1714

whether the spiral flow of the mixture of liquid chemical and contaminants is a desired effect that the inventors Lee et al. intended to create or whether the spiral flow of the mixture is simply a side effect generated by the functioning of Lee's processing equipment, the spiral flow of the mixture of liquid chemical and contaminants still occurs in the teaching of Lee.

10. Applicant argues that instead of discharging liquid chemical and solid matter, Lee only teaches discharging liquid chemical. However, Lee teaches discharging both liquid chemical and contaminants from the treatment bath (Col. 7, 4-12).

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1714

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN COLEMAN whose telephone number is (571)270-7376. The examiner can normally be reached on Monday-Friday, 9-5.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RLC/

Ryan L. Coleman

Patent Examiner, Art Unit 1714

May 6, 2010

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 1714

Application/Control Number: 10/551,281  
Art Unit: 1714

Page 6